

CLAIMS:

1. A liquid crystal display including a plurality of pixel areas, each pixel area comprising:

a pixel area defined by a first transverse-extending gate line, a second transverse-extending gate line, a first lengthwise-extending data line, and a second lengthwise-extending data line;

a pixel electrode formed overlying the pixel area;

a switching element electrically connected to the pixel electrode; and

a first shielding layer electrically connected to the first gate line, wherein the first shielding layer is parallel to the first data line and adjacent to the first data line.

2. The liquid crystal display as claimed in claim 1, wherein the first shielding layer overlaps the periphery of the pixel electrode to provide a first overlapping portion.

3. The liquid crystal display as claimed in claim 1, further comprising a second shielding layer parallel to the second data line and adjacent to the second data line.

4. The liquid crystal display as claimed in claim 3, wherein the second shielding layer is not electrically connected to the first gate line.

5. The liquid crystal display as claimed in claim 3, wherein a spacing between the first data line and the periphery of the pixel electrode is a liquid crystal reverse region, and a spacing between the second data line and the periphery of the pixel electrode is a liquid crystal non-reverse region.

6. The liquid crystal display as claimed in claim 5, wherein the width of the first shielding layer adjacent to the liquid crystal reverse region is larger than the width of the second shielding layer adjacent to the liquid crystal non-reverse region.

7. The liquid crystal display as claimed in claim 3, further comprising a repair line situated across the first shielding layer and the second shielding layer,

wherein (i) the repair line partially overlaps the first shielding layer in order to provide a first repair point, and (ii) the repair line partially overlaps the second shielding layer to provide a second repair point.

8. A liquid crystal display, comprising:
 - a first substrate;
 - a second substrate;
 - a liquid crystal layer formed in a space between the first substrate and the second substrate;
 - a pixel area array formed overlying the first substrate and defined by a plurality of transverse-extending gate lines and a plurality of lengthwise-extending data lines;
 - a pixel electrode array including a plurality of pixel electrodes formed overlying the corresponding pixel areas;
 - a switching element array including a plurality of switching elements, wherein each switching element is connected to the corresponding pixel electrode and the corresponding data line; and
 - a first shielding layer array including a plurality of first shielding layers formed in the corresponding pixel areas, wherein each first shielding layer (i) is electrically connected to the corresponding gate line, (ii) extends parallel to the data line, and (iii) is adjacent to one side of the corresponding data line.
9. The liquid crystal display as claimed in claim 8, further comprising a second shielding layer array including a plurality of second shielding layers, wherein each second shielding layer (i) is formed overlying the corresponding pixel area, (ii) extends parallel to the data line, and (iii) is adjacent to another side of the corresponding data line.
10. The liquid crystal display as claimed in claim 9, wherein the first shielding layer and the second shielding layer have an identical width.
11. The liquid crystal display as claimed in claim 8, wherein the switching element is a thin film transistor.

12. The liquid crystal display as claimed in claim 8, wherein each first shielding layer partially overlaps the periphery of the corresponding pixel electrode to form a first overlapping portion which serves as a first complementary capacitor.

13. The liquid crystal display as claimed in claim 9, further comprising a repair line across the first shielding layer and the second shielding layer within each pixel area, wherein (i) the repair line partially overlaps the first shielding layer to provide a first repair point, and (ii) the repair line partially overlaps the second shielding layer to provide a second repair point.

14. A liquid crystal display including at least a semiconductor structure which includes at least a pixel area array, each pixel area comprising:

a first metal layer serving as a first transverse-extending gate line, a second transverse-extending gate line, a first lengthwise-extending shielding layer, and a bottom electrode of a storage capacitor, wherein the first shielding layer is (i) disposed between the first gate line and the second gate line and (ii) electrically connected to the first gate line;

an insulating layer covering the first metal layer;

a second metal layer serving as a first lengthwise-extending data line, a second lengthwise-extending data line which defines the pixel area, and a source/drain electrode of a thin film transistor; and

a transparent conductive layer covering the pixel electrode in order to serve as a pixel electrode and an upper electrode of the storage capacitor.

15. The liquid crystal display as claimed in claim 14, wherein the first metal layer further serves as a second shielding layer disposed between the first gate line and the second gate line.

16. The liquid crystal display as claimed in claim 15, wherein the second shielding layer is electrically connected to the first gate line.

17. The liquid crystal display as claimed in claim 15, further comprising a repair line across the first shielding layer and the second shielding layer within each pixel area, wherein (i) the repair line partially overlaps the first shielding layer to provide a first repair

point, and (ii) the repair line partially overlaps the second shielding layer to provide a second repair point.

18. The liquid crystal display as claimed in claim 15, further comprising an alignment layer formed over each pixel area,

wherein, when an angle between a rubbing direction of the alignment layer and the data line is 40 to 50 degrees, a spacing between the first data line and the periphery of the pixel electrode is a liquid crystal reverse region, and a spacing between the second data line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein the width of the first shielding layer adjacent to the liquid crystal reverse region is larger than the width of the second shielding layer adjacent to the liquid crystal non-reverse region.

19. The liquid crystal display as claimed in claim 15, wherein the first shielding layer partially overlaps the periphery of the pixel electrode to form a first complementary capacitor, and the second shielding layer partially overlaps the periphery of the pixel electrode to form a second complementary capacitor.

20. The liquid crystal display as claimed in claim 14, wherein the first metal layer and the second metal layer are made of Cr, Ta, Ti, Al or Mo.